

LISTING OF CLAIMS

1. (Original) A construct for buildings comprising an elongated steel pipe member with a hollow interior and reinforcing elements provided in a hollow portion of the interior of the steel pipe member to cross the interior of the steel pipe member in the longitudinal direction, said steel pipe member and said reinforcing elements being welded and joined together at a plurality of joint holes piercingly formed on an outer peripheral portion of said steel pipe member,

wherein said steel pipe member is formed with inserting holes for the reinforcing elements on the outer peripheral portion of the steel pipe member formed at mounting positions for said reinforcing elements to be of a width that meets a width dimension of the reinforcing elements,

wherein these inserting holes are provided to be successive from the outer peripheral surface of said steel pipe member to said interior,

wherein said reinforcing elements are inserted into said inserting holes from the outer peripheral surface of said steel pipe member towards a direction facing the interior of said steel pipe member in a direction that is substantially orthogonal to the longitudinal direction of the steel pipe member,

wherein said reinforcing elements are formed to be plate-like, to have side surfaces that are smaller than cross sections crossing the hollow portion in the interior of said steel pipe member, and to have an outer peripheral surface that is substantially orthogonal to the side surfaces and that corresponds to an inner wall surface of the steel pipe member,

wherein engaging elements for engaging with an suspending means are provided on one side portion of said peripheral surface,

wherein the engaging elements of said reinforcing elements are provided to be parallel to the longitudinal direction of the outer peripheral surface of the reinforcing elements,

wherein engaging members for engaging the engaging elements of the suspending means are respectively provided on both side portions in the longitudinal direction,

wherein the engaging members comprise sloped surfaces that arise from above the outer peripheral surfaces of said reinforcing elements

and that respectively become broader in both outer directions in the longitudinal direction of the outer peripheral surfaces of said reinforcing elements, and

wherein a shape that sections in a direction orthogonal to the longitudinal direction of the reinforcing elements is formed on an upper portion of said engaging elements to be triangular, arc-like or quadrangular.

2. (Original) A construct for buildings comprising an elongated steel pipe member with a hollow interior and reinforcing elements provided in a hollow portion of the interior of the steel pipe member to cross the interior of the steel pipe member in the longitudinal direction, said steel pipe member and said reinforcing elements being welded and joined together at a plurality of joint holes piercingly formed on an outer peripheral portion of said steel pipe member,

wherein said steel pipe member is formed with inserting holes for the reinforcing elements on the outer peripheral portion of the steel pipe member formed at mounting positions for said reinforcing elements to be of a width that meets a width dimension of the reinforcing elements,

wherein these inserting holes are provided to be successive from the outer peripheral surface of said steel pipe member to said interior,

wherein said reinforcing elements are inserted into the inserting holes from the outer peripheral surface of said steel pipe member towards a direction facing the interior of the steel pipe member in a direction that is substantially orthogonal to the longitudinal direction of the steel pipe member,

wherein said reinforcing elements are formed to be plate-like, to have side surfaces that are smaller than cross sections crossing the hollow portion in the interior of the steel pipe member, and to have an outer peripheral surface that is substantially orthogonal to the side surfaces and that corresponds to an inner wall surface of said steel pipe member,

wherein engaging elements for engaging with an suspending means that suspend the reinforcing elements are provided on one side portion of said outer peripheral surface,

wherein projecting members corresponding to the joint holes

piercingly formed on the outer peripheral portion of said steel pipe member are formed on the outer peripheral surface of said reinforcing elements on a side opposite to the engaging elements,

wherein the engaging elements of the reinforcing elements are provided to be parallel to the longitudinal direction of the outer peripheral surface of the reinforcing elements,

wherein engaging members for engaging the engaging elements of the suspending means are respectively provided on both side portions in the longitudinal direction,

wherein the engaging members comprise sloped surfaces that arise from above the outer peripheral surfaces of said reinforcing elements and that respectively become broader in both outer directions in the longitudinal direction of the outer peripheral surfaces of said reinforcing elements, and

wherein a shape that sections in a direction orthogonal to the longitudinal direction of the reinforcing elements is formed on an upper portion of said engaging elements to be triangular, arc-like or quadrangular.

3. (Original) A construct for buildings comprising an elongated steel pipe member with a hollow interior and reinforcing elements provided in a hollow portion of the interior of the steel pipe member to cross the interior of the steel pipe member in the longitudinal direction, said steel pipe member and said reinforcing elements being welded and joined together at a plurality of joint holes piercingly formed on an outer peripheral portion of said steel pipe member,

wherein said steel pipe member is formed with inserting holes for the reinforcing elements on the outer peripheral portion of the steel pipe member formed at mounting positions for said reinforcing elements to be of a width that meets a width dimension of the reinforcing elements,

wherein these inserting holes are provided to be successive from the outer peripheral surface of said steel pipe member to said interior,

wherein said reinforcing elements are inserted into said inserting holes from the outer peripheral surface of said steel pipe member towards a direction facing the interior of said steel pipe member in a direction that is substantially orthogonal to the longitudinal direction of the

steel pipe member,

wherein guiding elements are inserted and fitted in to said underneath joint holes piercingly formed on the outer peripheral portion of said steel pipe member,

wherein the guiding elements comprise stopping members that abut inner walls of said joint holes and guide members that are prolonged by the stopping members and that jut into a space portion of said steel pipe member, and

wherein the guide members comprise sloped surfaces that expand to both sides with respect to a length direction of said steel pipe member with said joint holes being pinched between and along which lower end edge portions of the outer peripheral surfaces of the reinforcing elements may slide.

4. (Currently Amended) The construct for buildings as claimed in Claim 1, ~~2 or 3~~, wherein a plurality of reinforcing elements are provided in the interior of the steel pipe member at intervals with a reinforcing filler that solidifies after injection is filled into space portions formed between the reinforcing elements.

5. (Currently Amended) The construct for buildings as claimed in Claim 1, ~~2 or 3~~, wherein the steel pipe member provided with reinforcing elements in its interior is either a pillar element erected such that its longitudinal direction becomes a direction vertical to a horizontal surface or a beam element that becomes either horizontal or oblique when mounted to a building.

6. (Currently Amended) The construct for buildings as claimed in Claim 1, ~~2 or 3~~, wherein the steel pipe member provided with reinforcing elements in its interior is a pillar element erected such that its longitudinal direction becomes a direction vertical to a horizontal surface, and

wherein connecting members to be joined with end portions of beam elements of a building are welded and joined to welded joint areas at which said steel pipe member and said reinforcing elements are welded and joined.

7. (Original) A method for manufacturing a construct for buildings, wherein in a construct for buildings comprising an elongated steel pipe member with a hollow interior and reinforcing elements provided in a hollow portion of the interior of the steel pipe member to cross the interior of the steel pipe member in the longitudinal direction, said steel pipe member and said reinforcing elements being welded and joined together at a plurality of joint holes piercingly formed on an outer peripheral portion of said steel pipe member,

wherein inserting holes are piercingly formed at mounting positions for said reinforcing elements on the outer peripheral portion of said steel pipe member and the steel pipe member is mounted in a substantially horizontal manner such that said inserting holes face upward,

wherein engaging elements piercingly formed on upper portions of the reinforcing elements are suspended by a suspending means above of the inserting holes such that outer peripheral portions that comprise width directions of the reinforcing elements face downward, the reinforcing elements being descended into the inserting holes by dropping the same in a vertical manner through the own weight of the reinforcing members and inserted in a direction substantially orthogonal to the longitudinal direction of the steel pipe member from the outer peripheral surface of said steel pipe member towards the interior of said steel pipe member,

wherein downside outer peripheral surfaces of said reinforcing elements are supported and received by a lower inner surface of the hollow portion of said steel pipe member such that the outer peripheral surfaces on both side portions of the reinforcing elements correspond to the inner side surface of the hollow portion of the steel pipe member, and

wherein said steel pipe member and the outer peripheral portions of said reinforcing elements are welded and joined to become integral at the inserting holes and said plurality of joint holes.

8. (Original) A method for manufacturing the construct for buildings as claimed in Claim 7, wherein in suspending reinforcing elements through a suspending means,

engaging elements for the reinforcing elements are provided to be parallel to the longitudinal direction of outer peripheral surfaces of the reinforcing elements; wherein engaging members for engaging with the suspending means are provided on both side portions of the longitudinal direction; the engaging members comprising sloped surfaces that arise from above the outer peripheral surfaces of said reinforcing elements and that respectively become broader in both outer directions in the longitudinal direction of the outer peripheral surfaces of said reinforcing elements, and wherein a shape that sections in a direction orthogonal to the longitudinal direction of said reinforcing elements is formed on an upper portion of said engaging elements to be triangular, arc-like or quadrangular,

wherein projecting members corresponding to joint holes piercingly formed on the outer peripheral portion of the steel pipe member are provided at a lower portion of the engaging elements of said reinforcing elements, the projecting members being formed such that a shape that sections in a direction orthogonal to the longitudinal direction of said reinforcing elements is formed to be triangular, arc-like or quadrangular,

wherein when the engaging members of the engaging elements of said reinforcing elements are grasped by said suspending means, said reinforcing elements are lifted upward by their sloped surfaces and

wherein the reinforcing are supported and received in vertical conditions with upper portions of the engaging elements engaging with pressing members of said suspending means for receiving compressive load, and

wherein when the projecting members of said reinforcing elements are positioned at the joint holes, outside surfaces of the projecting members formed to be triangular, arc-like or quadratic are guided while abutting peripheral edges of said joint holes to be inserted therein while correcting postures of the reinforcing elements in vertical directions.